Daily Diary Report by Bid Item

Contract No.: 04-0120F4
Diary #: 050 **Const Calendar Day:** 189 **Date:** 16-Mar-2010 **Tuesday**
Inspector Name: Brignano, Bob **Title:** Transportation Engineer
Inspection Type:
Shift Hours: **Break:** **Over Time:**
Federal ID:
Location:
Reviewer: Schmitt, Alex **Approved Date:** **Status:** Submit

04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge

Weather

Temperature **7 AM** **12 PM** **4PM**
Precipitation **Condition**

Working Day ☑ If no, explain:

Diary:

Dispute ☐

General Comments

ITEM 56 ERECT STRUCTURAL STEEL (BRIDGE)(BOX GIRDER):
I am at the OBG/Crossbeam locations below from 1000 to 1130 with Caltrans inspectors and ABF engineers to examine the two issues detailed below. The primary inspection of the bolting is by other Caltrans OBG inspectors.

CROSSBEAM 1, BOLTED SPLICE TO E-LINE OBG:

We look at some bolts for which there is some question about bolt stickout. We examine some assemblies and determine they are acceptable - they range from a flush nut to 6mm stickout. The assemblies with a flush nut are acceptable per the specifications - the examined assemblies do have full nut engagement on the bolt.

U-RIB BOLTED SPLICES AT OBG FIELD SPLICE 3:

There is some disagreement between CT and ABF in the field about bolt assembly tightening. ABF has tightened some bolt assemblies beyond the turn of the nut match marking. Caltrans inspectors have concerns about bolt assemblies being overtightened. These bolt assemblies do not meet the spec requirements for turn of the nut turn amount (not within the required turn tolerances). ABF engineer Chris Bausone and I did some testing last week on 3/12/10 in the warehouse and decided to visit the field at a later date and remove some assemblies to examine the threads to determine if they are overtightened.

Approximately 40 bolt assemblies are removed to examine and resolve this issue. The plan was to remove a few bolts, see if they are overtightened by examining the threads and continue to remove bolts if we determine that there are overtightened bolts (we would have stopped removing bolts if we determined that bolts that were questioned/rejected were not overtightened). The bolt assemblies we removed were tightened beyond the turn of the nut match marking by 60 to 120 degrees (the tolerance on 180-degree turn of the nut turn amount is + 30 degrees) and were rejected by CT inspectors. We started by removing a bolt assembly that was properly turned to the match marks (180-degree) and determine that the threads are good and the nut runs all the way to the shank of the removed bolt by hand without problem. For the other assemblies that were removed and had turn amounts that exceeded the match mark limits, the nuts could not be turned beyond their previous position on the removed bolt by hand (nuts could not be turned to the shanks, past the elongated threads under the previous nut positions). The inelastic elongation of the bolt in the threaded portion under the nut is so much that the pitch changes enough that a nut cannot be run past its point during the nut turning operation. All removed bolt assemblies are replaced with new bolt assemblies (galvanized assemblies fully tensioned cannot be reused) and are verified by checking match marking and a torque wrench (to the minimum inspection torque).

ITEM 55 FURNISH STRUCTURAL STEEL (BRIDGE)(BOX GIRDER);
HIGH STRENGTH FASTENER ASSEMBLY PRE-INSTALLATION TESTING:

At Pier 7 Warehouse, test rotational capacity, minimum tension verification, and inspection torque for high strength bolts. These bolts are for OBG field bolting. Caltrans witnessing of testing is by Saman Soheilifard and Bob Brignano at different times. Sampling was done on 3/2/10 and testing was started on that date but it was stopped due to an unusual noise coming from the gearbox of the Skidmore Model HT 4000. ABF has examined the Skidmore and fixed the problem. Testing resumes today.

Testing is completed today on LeJeune Lot number DHGM240044 M24x65 assemblies that was partially tested on 3/2/2010. Testing is also performed on 3 other rocap lots.

Testing is in the afternoon from 1400 to 1600 for 2 hours.

Equipment = Bolt Testing Conex ABF ID 002079 (2 hrs) and Skidmore Model HT 4000 ABF ID 000612 (2 hrs).

For ABF, engineer Chris Bausone is present for testing.

See the attached Bolt Test Form for details of the testing.